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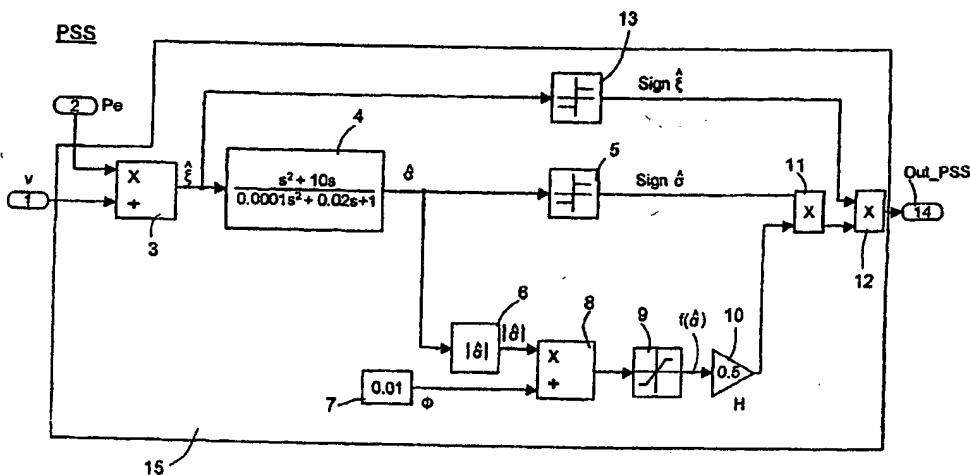
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(57) Abstract: Compensator device (PSS), for the stabilisation of electromechanical oscillations destined to provide a reference signal (OUT_PSS) to a voltage regulator device (AVR) of a synchronous alternator (G) for the delivery of electrical power to a distribution network (NET). Said device including: - first processing means (3,4) to receive electrical measurement signals representing operative parameters characteristics of said synchronous alternator and/or to generate an electrical signal to be controlled ($\xi(t)$); and a first electrical signal ($\sigma(\xi,t)$) corresponding to a sliding surface of a control of the "sliding modes" type, - second processing means (19,20) of the first signal ($\sigma(\xi,t)$) to generate the reference signal (OUT_PSS) so that it has a first order "sliding modes" profile.